1.(Original) An adaptive equalizer comprising:

a Viterbi decoder having 16 stages and producing a decoded output;

a mapper coupled to the decoded output of the Viterbi decoder, the mapper producing a mapped output; and

a decision feedback equalizer coupled to the mapped output, the decision feedback equalizer having more than 16 taps;

wherein 16 of the taps each receive as input via the mapper output from a respective one of the 16 stages of the Viterbi decoder.

2. (Original)   The adaptive equalizer of claim 1, further comprising an FIR filter.

3. (Original)   The adaptive equalizer of claim 1, wherein at least one tap receives as input via the mapper delayed output from the 16th decoding stage.

4. (Original)   An adaptive equalizer comprising:

a Viterbi decoder having 16 stages and producing a decoded output;

a mapper coupled to the decoded output, the mapper producing a mapped output; and

a decision feedback equalizer coupled to the mapped output, the decision feedback equalizer having fewer than 16 taps;

wherein each of the taps receives as input via the mapper output from a respective one of the 16 stages of the Viterbi decoder.

5. (Original)   The adaptive equalizer of claim 4, wherein the taps receive the output from the

earliest "x" decoding stages, where "x" is the number of taps.

6. (Original)   The adaptive equalizer of claim 5, wherein an error signal is generated from the 16th decoding stage.

7. (Previously Presented)     An adaptive equalizer comprising:

a trellis decoder producing a decoded output and having 16 stages;

a mapper coupled to the decoded output and having a mapped output; and

a decision feedback equalizer coupled to the mapped output, the decision feedback equalizer having fewer than 16 taps;

wherein each of the taps receives as input via the mapper output from a respective one of the 16 stages of the trellis decoder.

8. (Cancelled)

9. (Previously Presented)     The adaptive equalizer of claim 7, wherein the trellis decoder comprises a Viterbi decoder.

10. (Cancelled)

11. (Cancelled)

12. (Cancelled)

13. (Previously Presented)     An adaptive equalizer, comprising:

an FIR filter;

a trellis decoder coupled to the FIR filter and having a decoded output and M number of

stages; and

a mapper;

a decision feedback equalizer coupled to the FIR filter and to the trellis encoder via the

mapper, where the decision feedback equalizer comprises N number of taps;

wherein the decoded output is mapped and scaled by the mapper and used by the adaptive

equalizer to generate an error signal, and M is not equal to N.